

WHAT IS CLAIMED IS:

1. A controller for an electric power steering apparatus applying a steering assist force by a motor to a steering system of a vehicle, and the controller comprising a main MCU with an A/D converter (1), a sub MCU with an A/D converter (2), and a D/A converter, wherein the sub MCU outputs a predetermined value to the D/A converter, an error between a predetermined value and a return value (1) obtained by transmitting a predetermined value to the sub MCU through the D/A converter and the A/D converter (1) are compared in the sub MCU, while an error between a predetermined value and a return value (2) obtained by transmitting a predetermined value to the sub MCU through the D/A converter and the A/D converter (2) are compared in the sub MCU, based on which a fault diagnosis is performed on the A/D converter (1), the A/D converter (2) and the D/A converter.

2. A controller for an electric power steering apparatus according to claim 1, wherein the A/D converter (1) is diagnosed as in a fault state, and application of the steering assist force is stopped.

3. A controller for an electric power steering apparatus according to claim 1, wherein the A/D converter (2) or the D/A converter is diagnosed as in a fault state, and application of the steering assist force is continued.

4. A controller for an electric power steering apparatus

according to any one of claims 1 to 3, wherein the return value (1) is transmitted from the main MCU to the sub MCU via a serial communication.

5 5. A controller for an electric power steering apparatus according to claim 1, wherein a D/A converter is provided external to the main MCU and the sub MCU.

6. A controller for an electric power steering apparatus
10 according to claim 1, wherein the D/A converter is provided inside of the sub MCU.